Minsky file — Hao Wang.

THE COMPUTATION LABORATORY OF HARVARD UNIVERSITY

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Professor George E. Forsythe
Director, Computer Science Division
Department of Mathematics
Stanford University
Stanford, California

Dear Professor Forsythe:

As a member in the computer area at Harvard, I am envious of the rapidity with which you are building up your Division. I shall try to state the different aspects of Marvin Minsky on which I happen to know something, not worrying about the fact that most of what I have to say will be no news to you.

MINSKY

Minsky, although trained as a mathematician and as something of a logician, is best known for his work on artificial intelligence, a highly controversial field. The "positivists" on artificial intelligence are nearly all enthusiastic about Minsky; even the "negativists" usually remark that if anybody can make some breakthrough on artificial intelligence, Minsky is the most likely to do it. His IRE survey of January 1961 is regarded as a standard reference. He is one of the most popular lecturers in the field, at various conferences and at summer institutes.

For many years, beginning at least with his Ph.D. thesis of 1954, he has been interested in models of the nervous system and plans to do some machine simulation of nerve nets. I understand his knowledge of neurophysiology, at least in the aspects relevant to his problems, is quite up to the professional standard.

On the more practical side of using machines, he is consultant to many government organizations, and, in particular, one of the active proponents of time-sharing on computers. He has worked closely with Selfridge on certain aspects of pattern recognition. In a report of 1956, he suggested using diagrams to prove geometrical theorems on machines: an idea which has led to quite a bit of development work at IBM. He enjoys building things and has a sufficient working knowledge of electronics.

On the more technical side of logic, Minsky is regarded as a leading expert on Turing machines and Post production systems; his proof of the unsolvability of Post's tag problem is widely accepted as a very good piece of work.

He is lively, stimulating, pleasant, original, and a highly cultured person.

At the age of 35, he is full of new ideas and future plans. I have no doubt that he will be very productive both in his own work and in guiding students. I consider him ready to be a full professor.

The only other possible candidates I can think of are J. Richard Büchi, now at Michigan, and P. M. Schützenberger, now in Paris. Neither of them is much concerned with the more practical side of computers. Both are slightly older than Minsky (probably by about 4 and 10 years respectively).

Büchi has a very solid reputation as a logician and has done very interesting work in the area between automata theory and the more classical type of logic. He has interest in the medical side, although I do not know whether he has actually done much work in the area. He is not as lively and outgoing as Minsky.

Schützenberger is both an M.D. and a recognized mathematician, especially on semigroups and, in recent years, on the algebraic treatment of finite state machines. I understand he has done extensive research in genetics. Although he regularly teaches mathematics nowadays, he was a Visiting Professor at the Harvard Medical School for 1961-62. He has a formidable list of publications. I believe he is the oldest of the three, probably around 45. His writings and lectures are not as clear as Minsky's. He seems to have a very wide knowledge both in mathematics and in the medical sciences.

If my understanding of your requirements is at all accurate, Minsky seems to be the most suitable candidate among the three.

Yours sincerely,

Hao Wang

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